Mordellidae (Coleoptera) from the South of France and the Pyrenees

by

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ABSTRACT. — A faunistic study of the Mordellidae from the South of France and the Spanish Pyrenees, based on the identification of 1745 specimens belonging to 66 species, collected during July 1973 and Juli 1974.

The males of *Mordellistena balazuci* Ermisch and *M. freyi* Ermisch are described for the first time. The parameres of both these species and of *Mordellistena tarsata* Mulsant, *M. minima* Costa and *M. stenidea* Mulsant are figured for the first time.

Interesting records include the following: Apparently new to the French fauna are: *Pseudodellamora distinguenda* Ermisch, *Mordellistena episternaloides* Ermisch, *M. kraatzi* Emery, *M. subepisternalis* Ermisch, *M. macedonica* Ermisch, *M. dvoraki* Ermisch, *M. koelleri* Ermisch, *Mordellochroa freyi* Ermisch; new to the Spanish fauna are: *Mordellistenula anomala* Ermisch, *Mordellistena longicornoides* Ermisch, *M. paraepisternalis* Ermisch.

During the first fortnights of both July, 1973 and July, 1974 I made a foray through the South of France and the Pyrenees to collect Mordellidae. The intention was to catch sufficient specimens to get insight into the differences between the species since my experience so far was mainly with museum material. Freshly mounted specimens are a prerequisite for a good collection. Identification of the material concerned gave so much information that publication of the results seems worthwhile.

July, 1973 was hot and sunny with temperatures over 35° C and the mordellids were active and abundant. In July, 1974 it was cool and rainy in the South of France; consequently I went to the southern slopes of the Pyrenees in Spain, where the weather was sunny, and later I returned to France; all in all, the beetles were not abundant, neither in number, nor in species. In July, 1974 there were less flowering Umbelliferae on sites visited also the year before.

Mr. G. J. Slob kindly collected Mordellidae for me in the South of France in May-June, 1973. In the present paper the name of this collector is abbreviated S; mr. C. J. M. Berger kindly provided a number of specimens and his name is abbreviated Be.

The number of individuals collected in 1973 amounts to 1176 (including 86 by Mr. Slob) and in 1974 569, making a total of 1745 individuals belonging to 66 species.

In the field the beetles show a noted preference for one particular Umbelliferous species, when more species grow on the same site. In my experience the order of preference seems to be: 1. *Heracleum*, 2. *Achillea*, 3. *Daucus*. When on montane sites there are no flowering Umbelliferae the beetles are attracted by the flowers of *Sedum* (Crassulaceae). In a steppe-like landscape with some trees (site 1) in Spain, they were attracted to *Santolina chamaecyparissus* L. (Compositae), being virtually the only flowering plant in that area.

To prevent damage to the mounted specimen, the genitalia and terminal segments of the Mordellinae were immediately extracted and glued to the card. Of each species from each site the genitalia of one or more specimens were examined. Moreover the paraglossae of the individuals of the genera *Variimorda* and *Mordella* were brushed out. In so far as the abdomen of the male Anaspidinae bears appendages or other characteristic structures it is loosened and glued to the card, behind the beetle and upside down.

The sketches of the parameres given in the paper were viewed from the inside, thus the right paramere is shown left and the left paramere is shown right. The sketches were made with the aid of a grid divided in sq. mm, and a scale-line in 0.1 mm. The line is laid on top of the grid in the eye-piece of a stereo-microscope. In this way it is possible to measure differences up to 0.01 mm.

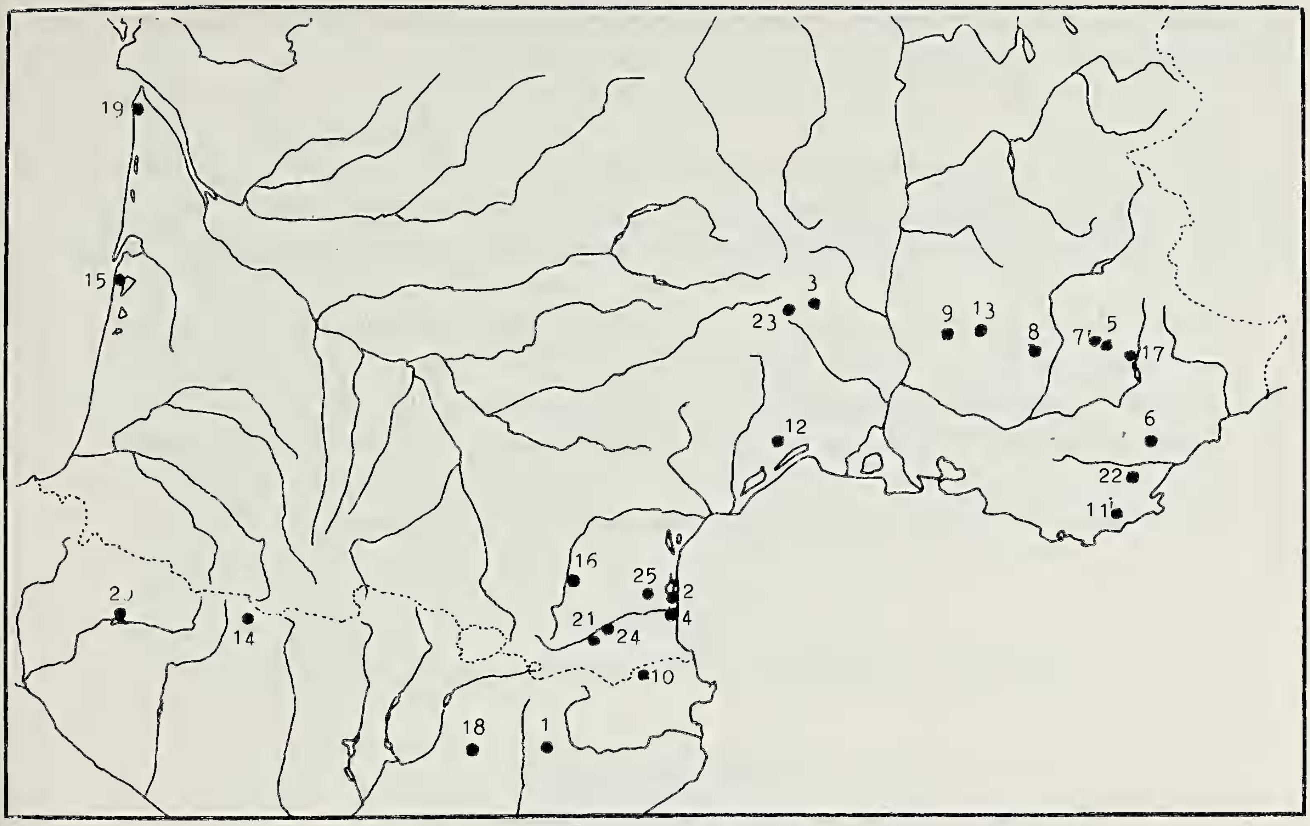


Fig. 1. Map of the collecting sites.

The collecting sites are described below. Unless stated otherwise the beetles were collected from unspecified Umbelliferae.

1. 19 km East of Avinyo, Spain (Barcelona), ca 500 m a.s.l., on steppe-like mountain slopes with some trees, slaty sand. On flowering *Santolina chamaecyparissias* L., 9.VII.1974.
2. Baccarès, France (Pyr. Or.), sea level, general sweeping on dunes with *Euphorbia, Reseda, Jasione montana* L., 19.V.1973 (S).
3. Bois de Paiolive, France (Ardèche), ca 200 m, deciduous forest on chalc. On white and yellow-green flowering *Sedum* and *Euphorbia*, 4.VII.1974.
4. Canet-Plage, France (Pyr. Or.), sea level, general sweeping on dunes with *Euphorbia, Reseda, Jasione montana* L., 14/16.V.1973 (S).
5. Champtercier near Digne, France (Basses Alpes), ca 800 m, general sweeping on fallow land, 7.VI.1973 (S).
6. 15 km East of Draguignan, France (Var), ca 300 m, along road N 562. On white flowering *Sedum*, xerophilous vegetation, 5.VII.1973.
7. Entrage near Digne, France (Basses Alpes), ca 700-1000 m, slopes, fallow land and roadside, 4.VII.1973.
8. 5 km West of Forcalquier, France (Basses Alpes), ca 500 m, road N 555, near artificial lake, 11.VII.1973.
9. Malaucène, France (Vaucluse), ca 500 m, road N 574, old vineyard on slopes of Mount Ventoux, 7.VII.1973.
10. Massenet de Cabrenys, Spain (Gerona) 370 m, overland-road to brook, 10.VII.1974.
11. 15 km West of La Môle, France (Var), ca 100 m, along road N 98, deciduous forest, replanted after fire about 12 years before, 6.VII.1973.
12. Montpellier, France (Hérault), ca 30 m, 8.VII.1973.
13. Mont Ventoux, France (Vaucluse), general sweeping all over the mountains and valleys, 3.-VI.1973 (S).
14. Ordesa, Spain (Huesca), ca 1500-1800 m, along road C 138, on *Heracleum, Achillea* and *Euphorbia cyparissias* L., 8.VII.1974.
15. Pyla, France (Landes), sea level, road D 146, forest with pine and orthophyllous trees. On *Achillea* and *Daucus*, 6.VII.1974.

16. Quillan, France (Aude), 291 m, disturbed land, riverside, in 1974 disturbed again by planting cutlings of poplar. On *Daucus*, 10.VII.1973 and 11.VII.1974.
17. St. André les Alpes, France (Basses Alpes), near Col des Robines, ca 1000 m, deciduous forest, 5.VII.1973.
18. Solsono, Spain (Lerida), 676 m, roadside C 1410. On *Sedum*, 9.VII.1974.
19. Soulac sur Mer, France (Gironde), sea level, dunes. On *Euphorbia paralias* L., 5.VII.1974.
20. 5 km East of Tiermas, Spain (Zaragossa), ca 600 m, road N 240, fallow land. On *Daucus*, 7.-VII.1974.
21. Vernet, France (Pyr. Or.), ca 650 m, road D 27, 9.VII.1973 and 10.VII.1974.
22. 5 km South of Vidauban, France (Var), ca 50 m, road D 48, garrigue, 6.VII.1973.
23. 5 km East of Villefort, France (Lozère), ca 850 m, roadside N 101, 5.VII.1974.
24. Vinça, France (Pyr. Or.), ca 200 m, general sweeping in the valley of the river Tet, 17.V.1973 (S).
25. Vingrau, France (Pyr. Or.), ca 200 m, general sweeping in maquis, 18.V.1973 (S).

RECORDS

Numerals refer to the collecting sites described above

MORDELLINAE

Variimorda fasciata (Fabricius). 9: 1 ♂; 14: 1 ♀; 16 (1973): 1 ♂, 1 ♀.

V. briantea (Comolly). 7: 3 ♂, 3 ♀; 8: 2 ♂, 1 ♀; 9: 2 ♂; 10: 3 ♂, 2 ♀; 11: 13 ♂, 5 ♀; 14: 1 ♂; 16 (1973): 11 ♂, 14 ♀; 16 (1974): 3 ♀; 21 (1973): 13 ♂, 3 ♀; 21 (1974): 3 ♂; 22: 3 ♂, 2 ♀.

V. basalis (Costa). 16 (1973): 2 ♂.

V. mendax Méquignon. 10: 3 ♂; 16 (1973): 1 ♂; 21 (1973): 2 ♂.

V. ragusai Méquignon. 11: 1 ♂, 3 ♀; 22: 1 ♂.

V. fagniezi Méquignon. 1: 6 ♂, 3 ♀; 18: 1 ♀; 20: 2 ♂. Lla France, Spain, VII.1972 Be: 2 ♂, 4 ♀ (1 ♂, 1 ♀ in my collection).

Mordella palmai Emery. 7: 3 ♂. This species is very rare.

M. purpurascens Apfelbeck. 6: 1 ♂; 8: 14 ♂, 14 ♀; 9: 1 ♂, 2 ♀; 11: 26 ♂, 13 ♀; 22: 11 ♂, 14 ♀.

M. viridescens Costa. 9: 3 ♂.

M. meridionalis Méquignon. 1: 2 ♂; 3: 10 ♂, 9 ♀; 4: 1 ♀; 6: 10 ♂, 9 ♀; 7: 33 ♂, 20 ♀; 8: 18 ♂, 2 ♀; 9: 15 ♂, 6 ♀; 10: 9 ♂, 5 ♀; 14: 3 ♂, 7 ♀; 15: 10 ♂, 7 ♀; 17: 2 ♀; 18: 1 ♀; 21 (1973): 1 ♀; 21 (1974): 17 ♂, 12 ♀; 23: 8 ♂, 3 ♀.

M. leucaspis Küster. 3: 16 ♂, 7 ♀; 6: 4 ♂, 3 ♀; 7: 15 ♂, 5 ♀; 8: 3 ♂; 9: 2 ♂, 3 ♀; 10: 15 ♂, 14 ♀; 11: 21 ♂, 21 ♀; 16 (1974): 1 ♀; 17: 1 ♂; 21 (1973): 5 ♂, 3 ♀; 21 (1974): 2 ♂, 1 ♀; 22: 16 ♂, 8 ♀.

M. brachyura Mulsant. 3: 9 ♂, 15 ♀; 5: 1 ♂, 2 ♀; 7: 12 ♂, 4 ♀; 8: 1 ♂, 1 ♀; 10: 2 ♂, 2 ♀; 15: 7 ♂, 1 ♀; 16 (1974): 1 ♂; 17: 1 ♀; 21 (1974): 2 ♂.

M. holomelaena Apfelbeck. 24: 2 ♂, 2 ♀.

Hoshihananomia gascognei (Mulsant). 10: 1 ♀, VII.1972 Be, in my collection.

Mediimorda bipunctata (Germar). 9: 1 ♀; 11: 1 ♀; 22: 2 ♀.

Pseudodellamora distinguenda Ermisch. 5: 1 ♀. This species is known only from the South of the Iberean peninsula (Ermisch, 1963a). It is very exceptional that Mr. Slob found a specimen in the South East of France.

Stenalia testacea (Fabricius). 9: 1 ♂.

Mordellistenula perrisi (Mulsant). 2: 2 ♂, 2 ♀; 6: 1 ♂; 7: 1 ♀; 14: 1 ♂; 22: 2 ♀; 23: 1 ♀; 25: 1 ♂, 1 ♀.

M. anomala Ermisch. 1: 16 ♂, 13 ♀; 22: 40 ♂, 25 ♀. Ermisch (1957) described the species from the South of France, being found in 1914 in: Camarque (Sylvereal), Avignon, Agay and Banyuls. The sites mentioned here were not explored until now, and the site near Avinyo enlarges the area to the South slopes of the Pyrenees in Spain. For the genus the species has abnormal maxillary palps, the terminal segment being shorter, having the shape of an elongated triangle, apical angles slightly rounded, whereas in the other species they are very elongated, the outside almost straight, the inside slightly convex and only one apical angle.

Mordellistena reichei Ermisch. 5: 1 ♀.

M. longicornoides Ermisch. 20: 2 ♂, 2 ♀. Described by Ermisch (1965) from European Turkey (Belgrader forest) and also found in Bulgary (Nessebar). To my knowledge the species has not been recorded from elsewhere, and seems to have a more extensive area. The specimens agree with the description.

M. episternalis Mulsant. 9: 2 ♀; 10: 14 ♂, 13 ♀; 11: 3 ♂, 5 ♀; 12: 1 ♀; 16 (1973): 6 ♂, 7 ♀; 16 (1974): 20 ♂, 10 ♀; 21 (1973): 2 ♂; 21 (1974): 1 ♀; 22: 3 ♀.

M. episternaloides Ermisch. 17: 1 ♂; 21 (1973): 2 ♂. Described by Ermisch (1963a) from Frankenhausen (Thüringen). To my knowledge the species has not been recorded since. The Leiden Museum has from Spain (pr. Malaga) San Pedro de Aleantara, 12/15.V.1960 2 ♂ and 2 ♀ of this species. These, however, have 3 strigosities on the first tarssegments of the hindlegs, just like *paraepisternalis*. The species are distinguished in that case by the characters of the antennae, pygidium and parameres.

M. paraepisternalis Ermisch. 20: 1 ♂, 1 ♀. Described by Ermisch (1965) from European Turkey (Belgrader forest). To my knowledge the species has not been recorded since.

M. kraatzi Emery. 5: 2 ♀.

M. subepisternalis Ermisch. 13: 2 ♂, 3 ♀. Described by Ermisch (1965) from Bulgary (Nessebar) and also found in Morocco. To my knowledge no other finds have been published.

M. macedonica Ermisch. 11: 1 ♂; 13: 2 ♂, 3 ♀; 22: 2 ♂, 1 ♀. Described by Ermisch (1965) from Bytola and also found in Skopje, both in Macedonia. To my knowledge no other finds have been published.

M. intersecta Mulsant. 6: 1 ♀; 7: 3 ♂, 5 ♀; 9: 2 ♀; 10: 1 ♀; 11: 1 ♀; 16 (1973): 4 ♂, 4 ♀; 16 (1974): 3 ♂, 3 ♀; 17: 1 ♀; 18: 1 ♂, 4 ♀; 20: 1 ♂, 1 ♀ and 3 badly damaged; 21 (1973): 2 ♀; 22: 1 ♂.

M. dvoraki Ermisch. 5: 1 ♀; 7: 1 ♀. In the literature only recorded from Bohemia, Macedonia, Bulgary and European Turkey (Ermisch 1956, 1969b).

M. fuscogemellata Ermisch. 2: 11 ♂, 3 ♀; 4: 4 ♂, 3 ♀; 25: 3 ♂, 1 ♀. A species of the South Western Palearctic; one specimen was found in the Netherlands: South Limburg (Brakman 1966).

M. pyrenea Ermisch. 11: 1 ♂, 1 ♀; 22: 12 ♂, 14 ♀.

M. tarsata Mulsant. 3: 1 ♀; 11: 1 ♂; 16 (1973): 2 ♂, 7 ♀; 16 (1974): 9 ♂, 2 ♀; 23: 1 ♀. I saw 1 ♂ from Italy and 1 ♂, 1 ♀ from Dalmatia missing the strigosities on the third tarsal segment of the hindleg. These could be identified by the 5-10 segment of the antennae being ca 2 × as long as broad, and the males also by the parameres. I figure the parameres for the first time (fig. 6) after a male from Quillan.

M. brevicauda (Boheman). 1: 3 ♀; 3: 1 ♀; 5: 4 ♂, 13 ♀; 10: 1 ♀; 13: 20 ♂, 12 ♀; 14: 2 ♂, 3 ♀; 19: 2 ♀; 20: 1 ♂, 8 ♀; 23: 4 ♂, 6 ♀.

M. pseudobrevicauda Ermisch. 5: 1 ♂.

M. emeryi Schilsky. 9: 1 ♀; 11: 2 ♀; 22: 11 ♂, 15 ♀. I want to draw attention to a mistake in the key of Ermisch (1969a: 181). The strigosities (oblique ridges) of the second segment of the hindleg number two only, agreeing with the description of Schilsky (1895). In Ermisch (1956: 286) the strigosities of the second tarsal segment are clearly omitted.

M. grisea Mulsant. 10: 1 ♂; 20: 1 ♂.

M. minima Costa. 7: 1 ♂; 11: 3 ♂; 16 (1973): 6 ♂, 10 ♀; 16 (1974): 1 ♂, 1 ♀; 20: 1 ♀. Because in the literature the parameres are not figured, I give them here (fig. 5) for the first time after a male from La Môle.

M. micantoides Ermisch. 3: 1 ♂; 19: 3 ♂, 4 ♀; 16 (1974): 1 ♀; 22: 1 ♀. This species is found near Soulac sur Mer on *Euphorbia paralias* L., only on the plants growing in the valleys of the dunes not exposed to the wind. Late in the afternoon the beetles hid in the axile of the leaves. One pair copulating.

M. stenidea Mulsant. 1: 1 ♀; 10: 2 ♂, 3 ♀; 11: 1 ♂; 16 (1973): 3 ♂, 1 ♀. Because in the literature the parameres are not figured, I give them here (fig. 4) for the first time, after a male from Quillan.

M. perroudi Mulsant. 1: 1 ♂, 1 ♀; 10: 2 ♂; 16 (1973): 2 ♂, 4 ♀; 16 (1974): 12 ♂, 5 ♀; 20: 1 ♀. This species looks much like a small specimen of *pseudohirtipes*. The palps are different. To be sure the parameres of all the males were examined.

M. hirtipes Schilsky. 9: 1 ♂; 22: 1 ♀. This is an East-European species closely related to the following species. The parameres of the male are examined.

M. pseudohirtipes Ermisch. 6: 1 ♂, 1 ♀; 7: 6 ♀; 8: 9 ♂, 1 ♀; 9: 28 ♂, 17 ♀; 10: 5 ♂; 11: 15 ♂, 14 ♀; 12: 1 ♀; 16 (1973): 21 ♂, 7 ♀; 16 (1974): 39 ♂, 16 ♀; 20: 3 ♂, 3 ♀; 21 (1973): 8 ♂, 3 ♀; 21 (1974): 1 ♀; 22: 25 ♂, 25 ♀.

M. thuringiaca Ermisch. 9: 1 ♂; 16 (1973): 1 ♂; 21 (1973): 1 ♂; 24: 1 ♂.

M. pygmaeola Ermisch. 7: 3 ♂; 11: 1 ♂. A species from the Alps.

M. pumila (Gyllenhal). 16 (1973): 1 ♀; 16 (1974): 1 ♂; 21 (1973): 3 ♀. This is a species of the temperate regions. It seems to be replaced in the warmer regions by *pseudopumila* which rarely occurs in the North.

M. dieckmanni Ermisch. 11: 1 ♂; 16 (1973): 1 ♂, 1 ♀.

M. pseudopumila Ermisch. 4: 2 ♀; 5: 11 ♂, 21 ♀; 7: 12 ♂, 11 ♀; 10: 2 ♂, 2 ♀; 11: 4 ♀; 14: 6 ♂, 4 ♀; 16 (1973): 19 ♂, 11 ♀; 16 (1974): 6 ♂; 18: 2 ♂, 2 ♀; 20: 1 ♂, 1 ♀; 21 (1973): 9 ♂, 1 ♀; 22: 1 ♀; 23: 1 ♀.

M. koelleri Ermisch. 1 ♂ Camp de Caylus, France (Tarn et Garonne) VII.1973 Be, in my collection.

M. pentas Mulsant. 3: 1 ♂, 1 ♀; 5: 5 ♀; 6: 1 ♀; 7: 3 ♂, 4 ♀; 9: 4 ♂, 12 ♀; 16 (1973): 2 ♀; 16 (1974): 2 ♂, 5 ♀; 17: 2 ♂, 3 ♀; 21 (1973): 3 ♂, 6 ♀; 21 (1974): 1 ♂, 1 ♀.

M. fageli Ermisch. 18: 1 ♀.

M. balazuci Ermisch. 21 (1973): 1 ♂. Described by Ermisch (1966) from a female (Bois de Paiolive 15.VIII.1963). This specimen is apparently the first known male, and is consequently described here. I extracted the parameres, basal piece and penis (parameres, fig. 2). The male agrees with the description of the female with the exception of the following characters: second segment of palp broadened to nearly circular at apex; pronotum 1.5 times broader than long, pygidial style 0.4 as long as elytra; length without pygidial style 4 mm, and with pygidial style 5.2 mm. Ermisch had at his disposal neither a male of *balazuci* nor one of *semiferruginea* Reitter. He was not quite sure whether his *balazuci* is a real species or a race of *semiferruginea*. Until now I have been unable to study the parameres of the latter species.

Mordellochroa abdominalis (Fabricius). 5: 1 ♀.

M. tournieri Emery. 6: 1 ♂; 8: 2 ♂, 1 ♀; 9: 2 ♂, 1 ♀.

M. freyi Ermisch. 3: 1 ♂; 14: 1 ♀; 20: 1 ♀; 21 (1973): 1 ♂, 2 ♀. Described by Ermisch (1944) after a single female. From both males, and one male of the Leiden Museum (Lebrija - Trebujena, Spain, prov. Sevilla, 10.V.1960, excursion of the said Museum), I extracted the parameres, basal piece and penis. The parameres of the male of Vernet are figured here (fig. 3). The male of this species is described here for the first time. The males agree with the description of the female with the exception of the following characters: distal segment of maxillary palps hammerlike, vertex totally black, pronotum 1.25 times broader than long, elytra 2.3 - 2.4 times as long as together broad, pubescens of elytra and pygidial style more or less orange-grey, largest spur half as long as posterior tibiae. The males measure 3.4 - 4.3 mm, the females 3.9 - 4.8 mm. It is not quite clear to me why Ermisch did not compare his *freyi* with *pulchella* (Mulsant & Rey). Later I hope to return to this problem.

ANASPIDINAE

Pentaria badia (Rosenhauer). 1 specimen St. Jean sur Tech, France (Pyr. Or.), 1.VII.1973, leg. P. Poot, coll. Be; now in my collection.

Anaspis (Anaspis) lurida Stephens. 4: 1 ♀.

A. (A.) frontalis Linné. 24: 3 ♂, 3 ♀.

A. (A.) maculata (Fourcroy). 24: 2 ♂, 2 ♀.

A. (A.) pulicaria Costa. 5: 3 ♂, 5 ♀; 6: 1 ♂; 12: 1 ♂, 3 ♀; 16 (1973): 1 ♂, 1 ♀; 21 (1973): 13 ♂, 18 ♀.

A. (Nassipa) costai Emery. 5: 2 ♀; 9: 1 ♀.

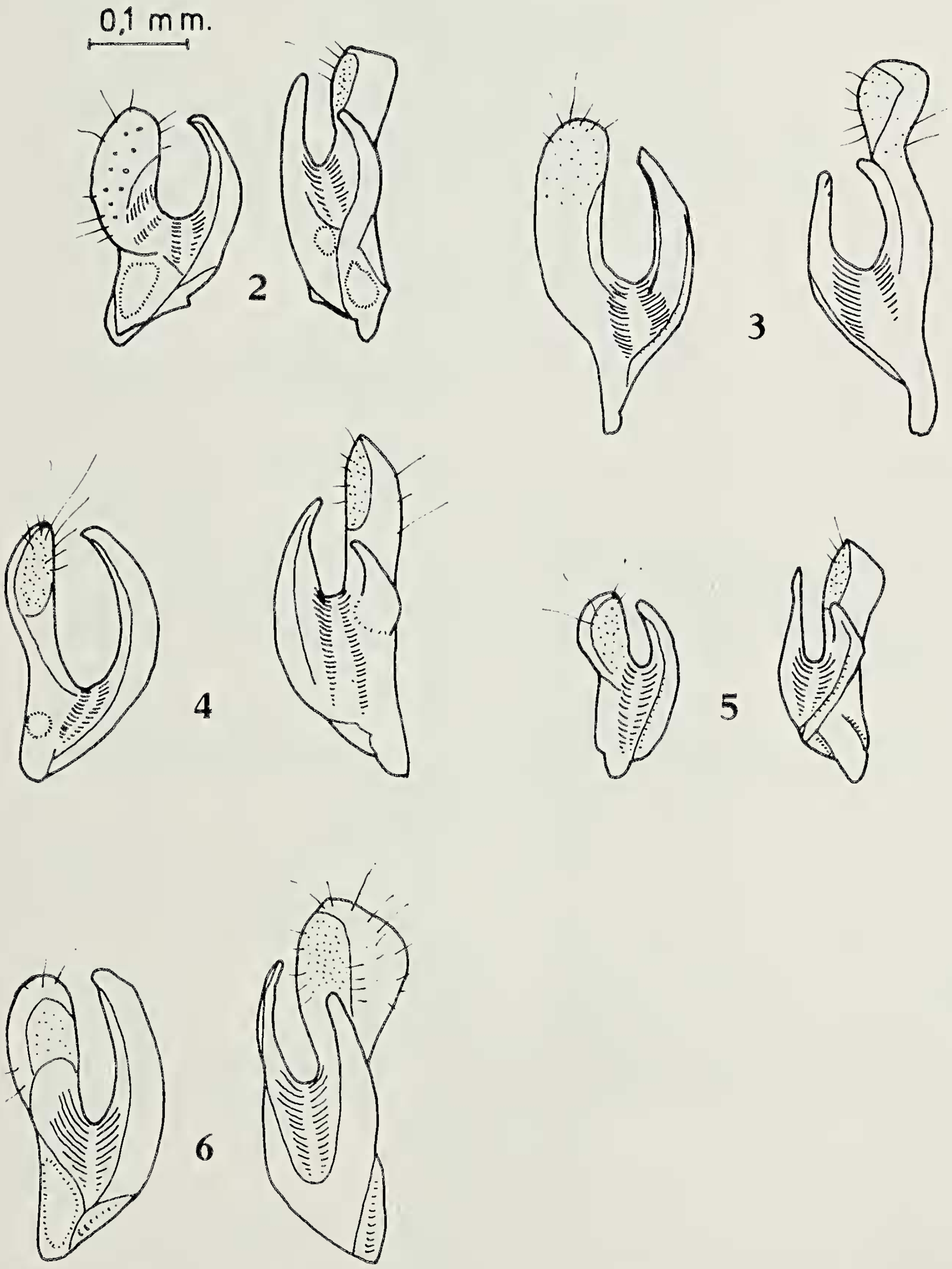
A. (Silaria) brunnipes Mulsant. 7: 5 ♂, 5 ♀.

A. (S.) kochi Ermisch. 22: 1 ♂; 23: 4 ♂; 24: 1 ♂; 25: 2 ♂, 2 ♀.

A. (S.) varians Mulsant. 3: 1 ♀; 4: 1 ♂; 7: 1 ♂, 1 ♀; 11: 1 ♀; 14: 6 ♂, 2 ♀; 21 (1973): 3 ♀; 23: 1 ♀; 24: 5 ♂, 5 ♀.

A. (S.) quadrimaculata Gyllenhal. 3: 1 ♀; 6: 1 ♀; 7: 1 ♂, 1 ♀; 9: 1 ♂, 6 ♀; 11: 1 ♀; 17: 2 ♀.

A. (S.) trifasciata Chevrolat. 12: 1 ♂; 16 (1973): 1 ♀; 21 (1973): 17 ♀; 21 (1974): 1 ♀.



Figs. 2-6. Parameres of: 2. *Mordellistena balazuci* Ermisch, France (Pyr. Or.), Vernet. 3. *Mordellochroa freyi* Ermisch, France (Pyr. Or.), Vernet. 4. *Mordellistena stenidea* Mulsant, France (Aude), Quillan. 5. *Mordellistena minima* Costa, France (Var), La Môle. 6. *Mordellistena tarsata* Mulsant, France, (Aude), Quillan.

Table I - summary of the distributional data

	France					Spain	
	B. Alpes	Var	Mt. Ventoux	N E Pyr.	Pyr. Or.	S W Pyr.	S E Pyr.
VARIIMORDA							
fasciata			+	+		+	
briantea	+	+	+	+		+	+
basalis				+			
mendax				+			+
ragusai		+					
fagniezi						+	+
MORDELLA							
palmai	+						
purpurascens	+	+	+				
viridescens			+				
meridionalis	+	+	+	+	+	+	+
leucaspis	+	+	+	+			+
brachyura	+	+	+	+			+
holomelaena				+			
HOSHIHANANOMIA							
gascognei							+
MEDIIMORDA							
bipunctata		+	+				
PSEUDODELLAMORA							
distinguenda	+						
STENALIA							
testacea			+				
MORDELLISTENULA							
perrisi	+	+			+	+	
anomala		+					+
MORDELLISTENA							
reichei	+						
longicornoides						+	
episternalis		+	+	+			+
episternaloides	+			+			
paraepisternalis						+	
kraatzi	+						
subepisternalis			+				
macedonica		+	+				
intersecta	+	+	+	+		+	+
dvoraki				+			
fuscogemellata					+		
pyrenea		+					
tarsata		+		+			

	France					Spain	
	B. Alpes	Var	Mt. Ventoux	N E Pyr.	Pyr. Or.	S W Pyr.	S E Pyr.
MORDELLISTENA							
brevicauda	+		+			+	+
pseudobrevicauda	+						
emeryi		+	+				
grisea						+	+
minima	+	+		+		+	
micantoides		+		+			
stenidea		+		+			+
perroudi				+			+
hirtipes		+	+				
pseudohirtipes	+	+	+	+		+	+
thuringiaca			+	+	+		
pygmaeola	+	+					
pumila				+			
dieckmanni		+		+			
pseudopumila	+	+		+	+	+	+
koelleri							
pentas	+	+	+	+			
fageli							+
balazuci				+			
MORDELLOCHROA							
abdominalis	+						
tournieri		+	+				
freyi				+		+	
PENTARIA							
badia				+			
ANASPIS (ANASPIS)							
lurida					+		
frontalis				+			
maculata				+			
pulicaria	+	+		+			
ANASPIS (NASSIPA)							
costai	+		+				
ANASPIS (SILARIA)							
brunnipes	+						
kochi		+			+		
varians	+	+		+	+	+	
quadrimaculata	+	+	+				
trifasciata				+			

The distribution of the species of Mordellidae in the south of France, as far as this is known at present, is summarized in the table above. The localities mentioned above are inserted in the columns as follows:

France	
Basses Alpes:	5, Champtercier; 7, Entrage; 8, Forcalquier; 17, St. André les Alpes
Var:	6, Draguignan; 11, La Môle; 22, Vidauban
Mont Ventoux:	9, Malaucène; 13, Mont Ventoux
N.E. Pyrenees:	16, Quillan; 21, Vernet; 24, Vinça
Medit. coast (Pyr. Or.):	2, Baccarès; 4, Canet-Plage; 25, Vingrau
Spain	
S.W. Pyrenees:	14, Ordesa; 20, Tiermas
S.E. Pyrenees:	1, Avinyo; 10, Massenet de Cabrenys; 18, Solsono

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Einige Bemerkungen zur Tagfalterfauna Westbulgariens

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ABSTRACT. — An account is given of a butterfly collecting trip to the Rila Mountains and the Pirin Region in Western Bulgaria. A list with systematical and zoogeographical notes is provided for the more interesting species viz., *Pieris krueperi, Hipparchia fagi, H. semele, Erebia aethiopella rhodopensis, E. cassioides, E. ottomana, E. epiphron orientalis, E. oeme, E. medusa* and *Coenonympha leander.*